



Federal Occupational Health **Health Effects of Irradiated Mail**

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Over the past several weeks we have received questions from many agencies regarding the safety of irradiated mail. We contacted several agencies involved in investigating these concerns (the US Postal Service, CDC, and EPA) and present the following summary of what is known to date.

Background on Irradiation Procedures

In response to the recent anthrax exposures, the U.S. Postal Service (USPS) began to irradiate select mail going to zip codes that begin with 202, 203, 204, and 205 in late November of last year. These codes serve the Federal government in the Washington, D.C. area. Mail targeted for irradiation includes all letters and flats addressed to the White House, the Senate, and the House, and letters and flats from "non-reliable" sources addressed to other federal offices. Currently, no mail destined for private residences or businesses or other non-governmental facilities is targeted for irradiation. At Brentwood the mail is bagged, boxed, and shrink-wrapped for transportation to one of two irradiation sites: Lima, Ohio and Bridgeport, New Jersey. On return to Brentwood, the mail is unwrapped, unboxed, and sprayed with a non-hazardous odor neutralizer, called Formulair. This product contains a mixture of terpenoids and related compounds that are produced by plants and are found in many spices and fragrances. After spraying, the mail is then allowed to air in tents for up to 24 hours prior to reentering the delivery system.

The irradiation tends to warp plastic and make paper dry, brittle, and discolored, but subsequent reduction in the irradiation level has decreased these effects. The USPS began airing the irradiated mail due to reports that the irradiation process also produces ozone and carbon monoxide, as well as the release of some volatile organic compounds from the plastic wrapping material. The USPS has assured that the mail is delivered only when traces of the gases are below levels considered safe by the EPA and other agencies.

Health Complaints Reported

Postal workers handling irradiated mail first reported health complaints in early December 2001. Complaints included transient headaches, dry throat, and nausea after unwrapping boxes of irradiated mail. Air quality testing detected higher than normal levels of carbon monoxide. The USPS reported that complaints dissipated with the institution of adequate ventilation controls.

Health complaints among employees in a number of other federal offices, including Capitol Hill, began to surface in mid-January 2002 in conjunction with opening and handling irradiated mail. Complaints have included eye, nose and throat irritation, nosebleeds, skin itchiness, irritation, and rashes, headaches, dizziness, nausea, and a metallic taste. These symptoms appear to be transient. People have also reported noxious chemical odors coming from the irradiated mail.

Environmental Assessment Performed

Among the agencies that received complaints from the mail handlers in their facilities was the Office of Personnel Management (OPM). At the request of OPM, the National Institute of Occupational Safety and Health (NIOSH) conducted an environmental assessment of OPM's building, and performed medical interviews to assess health concerns voiced by their employees. The environmental assessment included monitoring for small particulates, volatile organic carbons (VOCs), formaldehyde, ozone, carbon monoxide, carbon dioxide, temperature, and relative humidity. Results indicated concentrations of individual VOCs, ozone, and carbon monoxide to be very low and concentrations of small particulate and total VOCs to be less than what is normally found in background samples. Carbon dioxide and temperature measurements were within recommended guidelines. Only relative humidity was below the recommended guidelines, at levels that could be associated with symptoms of eye irritation and dry skin. Medical interviews with employees revealed symptoms indistinguishable from those typically occurring during winter months associated with low building humidity and viral illness.

Current Recommendations for Handling Irradiated Mail

Based on the evaluation at OPM, NIOSH recommends the following for those experiencing ongoing effects from handling mail:

- Employers should keep a systematic reporting log of symptoms.
- Provide non-latex, powder-free gloves to workers.
- Continue frequent hand washing.
- Encourage workers to use hand cream or lotion.
- Use saline eye drops or nose spray for dryness or irritation.

Additional recommendations to reduce the chance of ill effects from opening and handling mail have been published by the USPS and GSA through Internet postings, the news media, and special meetings and include:

- Reducing the locations where mail is opened and numbers of people who handle mail wherever feasible
- Handling irradiated mail in well-ventilated, open areas and
- Spreading out the mail to let it air out before removing contents.

Investigation Continues

In late January, a congressional task force, with representation from the Environmental Protection Agency (EPA) and the Centers for Disease Control (CDC), was set up to evaluate the safety of handling irradiated mail. The task force has not yet filed a final report. Senators are pressing for an independent investigation of the health complaints and NIOSH launched a health hazard evaluation on Capitol Hill the week of February 11, 2002. We will keep you posted with any new information or recommendations that result from these ongoing investigations.